

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference NE-70154WO	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2004/001795	International filing date (day/month/year) 18.02.2004	Priority date (day/month/year) 18.02.2003
International Patent Classification (IPC) or national classification and IPC H01M 4/86, 4/88, 8/02, 8/10		
Applicant NEC CORPORATION		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>9</u> sheets, as follows: <div style="margin-left: 20px;"><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</div> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) <div style="margin-left: 20px;">, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</div>
4. This report contains indications relating to the following items: <div style="margin-left: 20px;"><input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application</div>

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/001795

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-3, 7, 8, 10-28 as originally filed/furnished
- pages* 4, 4/1, 5, 6, 9 received by this Authority on 16-12-2004
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 2, 9, 13, 16, 17, 20-22 as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 6-8, 10-12, 14, 15, 19, 23-28 received by this Authority on 16-12-2004
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/4-4/4 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☒ the claims, nos. 1, 3-5, 18
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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International application No.

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	7-9, 11-17, 23-28	YES
	Claims	2, 6, 10, 19-22	NO
Inventive step (IS)	Claims	9, 14, 24, 27	YES
	Claims	2, 6-8, 10-13, 15-17, 19-23, 25, 26, 28	NO
Industrial applicability (IA)	Claims	2, 6-17, 19-28	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP 62-196389 A (The Dow Chemical Co.), 29 August 1987, page 3, lower right column, line 17 to page 4, upper left column, line 7; page 6, lower left column, line 20 to same page, lower right column, line 19; all drawings

Document 2: JP 5-325983 A (Mitsubishi Electric Corp.), 10 December 1993, paragraphs 0010 and 0015; fig. 1 and 2

Document 3: JP 7-326363 A (Sanyo Electric Co., Ltd.), 12 December 1995, paragraphs 0021 and 0030; fig. 1

Document 4: JP 7-57742 A (Tanaka Kikinzoku Kogyo Kabushiki Kaisha), 3 March 1995, paragraphs 0004 and 0005

Document 5: JP 2001-329380 A (Furuya Kinzoku Kabushiki Kaisha), 27 November 2001, paragraphs 0022, 0024, 0028, 0033-0035; fig. 3

Claims 2, 6 and 19-22

The inventions set forth in claims 2, 6 and 19-22 lack novelty over newly cited document 5. Roughening the surface of a porous metal sheet is disclosed in paragraph

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Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

0028 of document 5 and etching the surface of a porous metal sheet is disclosed in paragraph 0024 of document 5.

Claim 10

The invention set forth in claim 10 lacks novelty over newly cited document 5. Since the catalyst of the invention disclosed in document 5 is a substance supported on a porous metal sheet, the aforementioned catalyst appears to be "substantially" covering the porous metal sheet.

Claims 7, 8, 11, 13, 15-17, 23, 25 and 28

The inventions set forth in claims 7, 8, 11, 13, 15-17, 23, 25 and 28 do not involve an inventive step in the light of newly cited document 5 and documents 1-3 cited in the international search report. It would be easy for a person skilled in the art to apply the invention disclosed in document 5 as the porous metal sheet of each of the inventions disclosed in documents 1-3.

Claims 12, 13 and 26

The inventions set forth in claims 12, 13 and 26 do not involve an inventive step in the light of newly cited document 5 and documents 1-4 cited in the international search report. Adhering a hydrophobic substance containing a water-repellent resin in the hollows of a fibrous sheet is a feature known to a person skilled in the art, as described, for example, in document 4.

Claims 9, 14, 24 and 27

The inventions set forth in claims 9, 14, 24 and 27 are not disclosed in newly cited document 5 or in any of

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the documents cited in the international search report.
Moreover, since these inventions are not obvious to a
person skilled in the art, they are novel and involve an
inventive step.